

For the benefit of any one who may refer to Machado's list, I may observe that the whole of the description at p. 16, under the head of *C. europæus*, has by a typographical error been separated from *Hirundo urbica*, to which it evidently applies.

55. CYPSELUS MELBA. "Avion."

Arrives in March, and breeds in colonies in the mountains, notably near Alora.

56. CYPSELUS APUS. "Avion;" Valencian, "Falsia."

Abundant in spring and summer.

[To be continued.]

V.—On the Ornithology of Algeria.

By J. H. GURNEY, Jun., F.Z.S.

ON the 25th of January, 1870, I disembarked at Oran, the chief town of the western province of Algeria, and a few days afterwards moved on in a coasting-steamer to Algiers. Before setting out for the Sahara, I devoted a month to collecting in the Tell*, principally in the vicinity of Blida and Miliana; and it was not until the 1st of March that I finally started for the interior.

The first caravanseraï, properly so called, is Bougzout; the second is Ain-Oussera; the third, Guelte el Stel. The water at all these places is barely drinkable. On the 22nd of March I arrived at Laghouat, the last French outpost, the first oasis of the Sahara, a picturesque spot by reason of its tall Palms. To the northward stretch plains as far as Djelpha. Rocky mountain-ridges protect this oasis from the wind, which frequently blows the sand in overwhelming clouds.

On the 9th of April I started for the Mزاب country. My camel unfortunately took fright the first night at some Ravens, and deserted me, so that for ten days I was without arsenical soap. But it is not necessary to recount all the incidents of the

* I cannot better define "the Tell" than in the words of Dr. Tristram. He calls it "the corn-growing country from the coast to the Atlas" (Ibis, 1859, p. 277).

journey. I must, however, mention the dayat* of Tibrem. In 1857 Dr. Tristram found in this dayat no less than "seven pairs of Golden Eagles, each of which had their nest" (Ibis, 1859, p. 283). Being undisturbed they were perfectly fearless, and he "twice walked under a tree and brought down a fine specimen with No. 7 shot." The Eagles have gone; but never shall I forget the throngs of birds which teemed wherever there was water—Pied Flycatchers (*Muscicapa luctuosa*), Hoopoes (*Upupa epops*), Woodchats (*Lanius auriculatus*), Rollers (*Coracias garrula*), Moorish Magpies (*Pica mauritanica*). Every tree of any size had not one, but several nests. As we rode along, Ravens (*Corvus corax*), Egyptian Vultures (*Neophron percnopterus*), and Kestrels (*Falco tinnunculus*) flew before us, mingling with noisy Shrikes (*Lanius algeriensis*) and groups of startled Sandpipers.

I saw many birds which I did not know; but we could not stop to secure specimens of them. On the fourth day we saw the wished-for landmark of the Mزاب town of Berr̄yan. From that place, after resting three days, we travelled to Gardaia, which is the chief city of the Mزاب confederation. Standing on a gentle eminence crowned by the never-failing mosque, its flat-roofed houses rising tier above tier, amongst ever-green Palm trees, Gardaia, once seen, is not to be forgotten.

Her gardens are very extensive; and nothing can surpass the glorious luxuriance of her vines, trained from Palm-stem to Palm-stem. Every Fig- and Peach- and Apricot-tree was loaded with green fruit, giving promise of an abundant harvest; and when the broken rays of the evening sun shed "a golden pathway" through the mass of foliage, the effect was superb.

As might be expected, so rich an oasis affords food and shelter for many species of birds. The Egyptian Turtle-dove (*Turtur ægyptiacus*) is so common that one has only to take one's stand in a garden and load and fire until enough have been shot. On every well and gateway sit Pallid Shrikes (*Lanius dealbatus*); and in the city itself the House-Bunting (*Fringillaria saharae*) chirps defiance from the flat roofs of the houses.

* Dr. Tristram defines a dayat as "an unimprovable oasis, in which there is no constant supply of water to be found at any depth" (Ibis, 1859, p. 278).

We got back to Laghouat on the 3rd of May; and as the heat had then become so intense that no European could venture out in the middle of the day without danger of a sunstroke, I left for Algiers almost immediately, and thence returned to England by the usual route.

I will now mention what has been written on the birds of Algeria. The first work seems to be Malherbe's 'Catalogue raisonné d'Oiseaux d'Algérie,' 1846. The bird part of the 'Exploration scientifique d'Algérie pendant les années 1840, 1841, 1842,' did not appear until 1867, though some of Gen. Levallant's plates were issued so much earlier than the letterpress that Malherbe was able to quote them. Loche's 'Catalogue des mammifères et des oiseaux observés en Algérie' came out in 1858. Intended as a guide to the natural-history department of the "Exposition permanente" at Algiers, it was in some measure the foundation of the two volumes of letterpress of the 'Exploration Scientifique,' which were printed (under the superintendence of his widow) after Capt. Loche's death in 1863. A Swiss collector has purchased his birds; but his fine collection of eggs is still to be disposed of. A year prior to the publication of this useful catalogue, Dr. L. Buvry's "Mittheilungen aus Algerien" appeared in the 'Zeitschrift für allgemeine Erdkunde' for 1857. Immediately afterwards an important contribution was made to 'The Ibis' in the shape of an article by Mr. Salvin, entitled "Five months' Bird's-nesting in the Eastern Atlas" (Ibis, 1859, pp. 174-191, 302-318, 352-365), and others "On the Ornithology of Northern Africa," by Dr. Tristram (Ibis, 1859, pp. 153-162, 277-301, 415-435; 1860, pp. 68-83, 149-165, 361-375), who had successfully penetrated the Great Sahara, where probably no European had been before him. These papers are replete with information, and are illustrated by plates of *Falco barbarus*, *Saxicola philothamna*, and *Ruticilla moussieri*.

In the 'Journal für Ornithologie' for January 1870, there is an article, which I have had translated, on the birds of the province of Constantine, by M. Taczanowski, enumerating 210 species; and there is another on the birds of the same province by M. Labonyse in the 'Annales de la Société d'Agriculture de

Lyon,' 1853. With the exception of the zoological appendices to Wagner's 'Reisen in der Regentschaft Algier,' Tristram's 'Great Sahara,' and Harcourt's 'Sporting in Algeria,' the above are all the works on the birds of Algeria which I know of; and the following list, which treats chiefly of the habits of the birds I saw, may be considered as supplementary to them.

I include only those species which actually came under my observation. In the few instances in which the birds were not shot, they were seen so near as to leave no doubt in my mind as to their identity. I think that in general the custom of identifying birds on the wing, when visiting a new country for the first time, is unsafe.

By my father's advice, I have adopted the classification of Gould's 'Birds of Europe,' inserting the non-European species in the order in which they appear in the museum at Algiers.

I have only to add that my best thanks are due to Dr. Tristram, Mr. Salvin, and Mr. Sharpe for the assistance they have rendered me in preparing my notes for the press, and to my father for revising and correcting them.

1. GYPS FULVUS (Gm.). Griffon Vulture.

One Sunday at Laghouat, happening to be out for a stroll, I observed twelve birds at a distance, which I recognized as Vultures, circling round a mountain. When I got nearer I could only count eleven; and while I was wondering what had become of the twelfth, it leisurely walked out from behind a large stone, at not more than fifty paces from where I was standing. This was the nearest I ever approached to *Gyps fulvus*, though I often saw birds of this species at a distance.

2. NEOPHRON PERCNOPTERUS (Linn.). Egyptian Vulture.

Both in ascending and descending, the Egyptian Vulture usually flies in circles. Like most other birds of prey, it rarely flaps its wings, but with pinions motionless, slightly upturned at the tip, it scans the surrounding country from an enormous height, receding rapidly from the eye, yet appearing to fly but slowly. The nearer the ground, the smaller are the circles, and the more lowered is the inner wing; in fact when about to settle, the bird is nearly sideways, the point of one wing appear-

ing to be directly beneath the point of the other. It walks with long strides, but not fast, stooping first on one side and then on the other. At Tibrem I saw Egyptian Vultures of all ages, but did not succeed in obtaining a specimen, though I was more than once within shot.

3. *AQUILA CHRYSÆTOS* (Linn.). Golden Eagle.

At Bouffarik I saw a dead specimen.

4. *BUTEO DESERTORUM* (Daudin). African Buzzard.

Buzzards were often seen at a distance. I got within fifty yards of one, not far from Sidi Maklouf, sitting on the edge of its nest. It was as red as any Kite, and must certainly have been *B. desertorum*. Kites were also frequently seen, and once or twice a Falcon. I purchased a live Lanner of a Zouave at Laghouat, which is now in the Zoological Society's Gardens in the Regent's Park.

To show how rich this country is in Raptores, I may mention that Capt. Loche enumerates no less than 37, nearly all of which are resident species.

5. *TINNUNCULUS ALAUDARIUS* (G. R. Gray). Kestrel.
Common.

6. *CIRCUS ÆRUGINOSUS* (Linn.). Marsh-Harrier.

At Laghouat, I am sorry to say, I missed a fine specimen.

7. *CIRCUS CYANEUS* (Linn.). Hen-Harrier.

I observed a fine pair of the Hen-Harrier, which is not included in Dr. Tristram's Sahara list (*Ibis*, i. p. 277), haunting some rushes and an Arab's garden at Laghouat. They were remarkably tame for Hawks; I shot the female, and crept up to within 40 yards of the male as he was preying upon a bird; but having only No. 11. shot in my gun, he escaped. Egypt was the only locality in Africa from which my father had previously seen the Hen-Harrier.

8. *STRIX FLAMMEA* (Linn.). Barn-Owl.

At Algiers I shot one specimen, but saw no others.

9. *SCOPS ZORCA* (Bp.): *Scops giu* (Scopoli). Scops Owl.

The Scops Owl resembles the Little Owl in its flight, but it

has a much more attenuated appearance when perched, except when it is asleep, when all the feathers are so puffed out that the head is undistinguishable from the body. It was much less common than *Athene persica* in the parts I visited; and Taczanowski mentions having seen only a single example.

10. *ATHENE GLAUX* (Sav.): *Athene persica* (Vieill.): *A. meridionalis* (Risso): *A. numida* (Loche?): Athenian Owl, Gray, Gen. B. fol. sp. 44.

These day-Owls sit openly exposed amongst rocks in the high and shelving banks of the Chalif; when frightened they take refuge in crevices, whence it is almost impossible to dislodge them. Their power of crouching aids them in squeezing into small holes, and creeping through narrow apertures. At Guelt el Stel and Laghouat their hooting was heard every evening almost before the sun went down. I cannot say whether they keep up their doleful melody all the night; but I used to hear them again at daybreak. They feed on beetles. As I learn from my father that this is unquestionably the Sacred Owl of Athens, I use the English name of "Athenian Owl" in preference to "Algerian Little Owl" or "Southern Little Owl." Taczanowski (in the list referred to at the head of this paper) says that those seen in the desert are generally lighter in colour than those met with on the coast.

11. *CAPRIMULGUS RUFICOLLIS*, Temm. Red-necked Goat-sucker.

On the 8th of April, about 6 P.M., at Guelt el Stel, I saw three birds which I suppose were of this species. They were evidently preying upon young locusts, with which the ground was so perfectly covered in places as to appear black at a little distance. I saw them (apparently) pick up several insects from the ground. The previous evening a specimen had been given me at Ain el Ibel, where the coach stopped. A sportsman brought it in alive, remarking that it was the only thing he had shot.

12. *CYPSELUS APUS* (Linn.). Swift.

There were immense numbers of Swifts at Algiers on my return from the Sahara.

13. *HIRUNDO RUSTICA*, Linn. Swallow.

Although I was not guilty of shooting a Swallow, I include it in my list for the sake of saying that it is a mistake to suppose that this bird or any of the European Hirundinidæ except *Cotyle rupestris* (the most stay-at-home of all that family) pass the winter in Algeria. It was not until the end of February that I first observed the Swallow; and I am convinced that few, if any, remain throughout the year. "The natives," says Dr. Tristram, "are perfectly familiar with the fact of the migration of vast flocks to the south, which all go, as they say, to Timbuctoo, the El Dorado of Arab and Swallow" (Ibis, 1859, p. 434). On the 26th and 27th of March we experienced a very cold wind at Laghouat; so benumbed were the poor Swallows that hundreds might have been killed with stones. The poor birds were to be seen sitting about in all directions. I am inclined to think they were suffering from cold, rather than the want of insect food. Insect life appeared to me to be always abundant.

14. *COTYLE RUPESTRIS* (Scop.). Rock-Swallow.

I noticed a considerable difference in size in specimens shot near the ravine of La Chiffa.

15. *CHELIDON URBICA* (Linn.). House-Martin.

First seen flying over the barracks at Blida on the 17th of February. On the 18th they were repairing their old nests at Miliana. The cold wind of March 27th so far affected them that I found many in the early morning upon the sand, and others clinging to the mud-brick walls which partition off the gardens. I caught some with my hat, which will give an idea of their extreme feebleness. At Guelte el Stel they nest in the mountains.

16. *COTYLE RIPARIA* (Linn.). Sand-Martin.

Common in summer.

17. *MEROPS APIASTER*, Linn. Bee-eater.

Arrives in flocks about the 1st of April. In their buoyant and graceful flight they are not unlike Martins. It is when descending that the resemblance is especially seen. Few birds surpass the Bee-eater in beauty as it glides nearly motionless

through the air (except when a momentary rapid beating of the wings is necessary to gather impetus), or hawks in the sunshine for wasps.

18. *MEROPS SUPERCILIOSUS*, Linn. Egyptian Bee-eater.

M. persicus, Pallas.

On the 21st of April I saw an Egyptian Bee-eater in one of the cemeteries* at Gardaia, which proved to be of this species. I afterwards came upon a flock of them lying upon the large stones which are scattered about wherever there are no gardens. I saw them also on walls, and on the fence-work upon the town-wall; and returning I found the cemetery, where I had seen the first solitary bird, occupied by about a dozen. They were perfectly tame; and I thought I had never seen a more interesting sight than these sparkling birds as, one after another, they rose into the air to hawk for insects, and, returning, perched upon a tombstone within a few yards, perhaps, of where I was standing. They have only one note; it is loud and rather harsh, like the Common Bee-eater's. Their flight is slower, but even more gliding, with the wings very much raised, except when the birds are high in air, when they appear to be more depressed. They almost lie upon stones and walls, as if unable to sit upright on account of their long tails and short legs. The Bee-eaters have a remarkably small brain.

19. *UPUPE EPS*, Linn. Hoopoe.

It was not until the 13th of March that I noticed a Hoopoe. At the close of that month considerable numbers arrived with other migratory birds. Though four were sometimes seen together, they were all paired; and it seems probable that most migratory birds pair *en route* or before leaving their winter quarters, though in some species the males precede the females. When feeding, the bill and crest bear some resemblance to the head of a hammer, as the Hoopoe moves its head up and down with

* The tombstones in the cemeteries, which are large and numerous in the Mزاب country, and generally just outside the walls, consist of unhewn stones stuck on end, and a few white "marabouts." Nearly every tomb is garnished with a row of urns; and the "marabouts" are sometimes ornamented with ostrich eggs.

regularity, about once every second. Weak as is their flight, they can go at a good pace; and though generally seen upon the ground, they perch freely. This is a difficult bird to skin well.

20. *CORACIAS GARRULA*, Linn. Roller.

The first seen was perched upon a headless Palm, in the oasis of Gardaia. It screamed loudly when wounded, and was most tenacious of life. I have a note that I saw one at Tibrem attack an Egyptian Vulture.

21. *MUSCICAPA ATRICAPILLA*, Linn. Pied Flycatcher.

It was not until April that I saw this species, after which it became common. In the dayats and at Gardaia, where they most abounded, the proportion of adult males in full summer plumage to young birds and females, was as one to five. They look exceedingly picturesque in the rich foliage of the oases, clinging, perhaps, to a rough Palm-stem, though their more common perch is the upper bough of a bush, whence they dart off after passing flies, in the manner of *Butalis grisola*.

22. *BUTALIS GRISOLA* (Linn.). Spotted Flycatcher.

Common in summer.

23. *TELEPHONUS ERYTHROPTERUS* (Shaw): *T. cucullatus* (Temm.). Hooded Shrike.

Has a wavering uncertain flight. Its powers of wing are probably very limited. The least breath of wind blows up its long tail; hence it generally keeps close to the ground. It perches in a feeble manner, as if its legs could not support it. The only one I shot was on the 6th of February as it flew from a small but thickly matted bush near the sea, far away from any trees. The previous fortnight there had been several in the poultry-market at Algiers.

24. *LANIUS ALGERIENSIS* (Less.).

Shy and hard to kill. Goes as far as Laghouat; but about a day's journey south of that town the next species takes its place.

25. *LANIUS DEALBATUS* (De Fil., *nec* Bp.). Bleached Shrike.
Lanius pallens (Cass.).*

While I was at Gardaia a great flight of locusts passed over

* [Qu. *L. lahtora*, Sykes? Cf. Dresser & Sharpe, P.Z.S. 1870, p. 595.—ED.]

the city, and the White Shrikes fed upon them. This tamest of birds is very common in the Mزاب country. No clump of trees, or dayat, is without its pair. The young are fully grown by the end of April; they infest every garden, preying upon the swarms of coleoptera which a high degree of moisture fosters; and, from their habit of not immediately eating what they catch, they are generally seen with something in their mouths. A favourite perch is the bottom of the crest of a Palm where the fronds are broken short, whence they can easily dart off to snatch a passing beetle, or rise into the air after a more high-flying locust. The Pallid Shrike's is a laboured flight, slow, but with very rapid beating of the wings. Its note is loud and sharp. It can mimic other birds; I have heard a young one utter notes which were the exact counterpart of those of the Desert-Bullfinch (*Carpodacus githagineus*).

26. *LANIUS AURICULATUS*, P. L. S. Müller. Woodchat.

L. rufus, auct.

A common summer migrant, especially abundant on the wooded hill-sides between Boghar and Medea, and nearly as common in the Sahara. It settles upon fallen wood, and sometimes amongst the young wheat grown in the oases of Laghouat, as well as tenanting many a solitary bush far away from habitations. Though generally seen upon an upper bough, it is a much less demonstrative bird than the Grey Shrike. It will sit with its mate on some slender stalk, shaking itself up (like a young bird) and vibrating the wings rapidly, but with no motion of the tail, until startled off. Its flight is nearly direct, but rather laboured than swift. It is, on the whole, rather a mute bird, but utters a kind of shriek when shot, and bites hard.

27. *ORIOLOUS GALBULA*, Linn. Golden Oriole.

Four seen together at Chiffa. Is rather a shy bird, but said to do well in captivity.

28. *TURDUS MERULA*, Linn. Blackbird.

Common, but very shy.

29. *TURDUS TORQUATUS*, Linn. Ring-Ouzel.

At Guelt el Stel.

30. *TURDUS MUSICUS*, Linn. Thrush.

Common.

31. *CINCLUS AQUATICUS*, Bechst., var. *MINOR*, Tristr. (Ibis, 1870, p. 497). Algerian Dipper.

Dr. Tristram informs me that he never met with the Dipper in Algeria; and M. Loche is believed to have only obtained two. Upon a stream near Blida I met with four or five, but only shot one, not being then fully aware of the interest attached to this bird. My specimen (which is in Dr. Tristram's collection) differs slightly from *Cinclus aquaticus*, as pointed out (Ibis, *l. c.*).

32. *CRATEROPUS FULVUS* (Desf.).

My own observations so exactly corroborate those of Dr. Tristram on this bird, that to give them would be a repetition. If two *Crateropus fulvus* are seen on the ground, when fired at, five or six others appear, and the flock fly off in an irregular line. Beetles, flies, and grain constitute the principal food of this bird. The colour of the iris is grey, and I can corroborate Dr. Tristram's remark (Ibis, 1859, p. 420) that "the sexes are alike in plumage." The same writer states that the Arab name is "Erbib el Hadjel," *i. e.* the adopted son of the Partridge.

33. *PYCNONOTUS BARBATUS* (Desf.). Dusky Ixos or Dusky Bulbul.

These birds get up in a wood in "coveys" of eight or ten, like a party of young Jays from thick scrub and brambles. Their Jay-like flight is as different as possible from that of the shy but active Blackbird; and when once flushed they no longer seek to bury themselves in the foliage, but perch in the most exposed situations. From among the feathers of the occipital region of one which I shot at Oued el Alleg grew a few very slender filaments, divided into branches, and about $\frac{3}{4}$ inch in length.

34. *PETROCINCLA CYANEA* (Linn.). Blue Thrush.

At La Chiffa.

35. *DROMOLÆA LEUCURA* (Vieill.). Black Wheatear.

I shot a few Black Wheatears at Boghari; but at Guelt el Stel

they were common. They seem always to be on the look-out from the top of a rock or stone; if they fly down for an instant, it is only to return to their former elevated position; but they render themselves conspicuous by this habit. As the eye wanders over the dreary landscape, it is a relief to see them. It is astonishing how far one may see a cock *D. leucura* spreading his tail upon a grey rock on a bright May morning. This raising the tail at right angles with the back, and spreading it out to its full extent, is the principal amusement of the male in the spring, and of the female also. I have found black and white beetles &c. inside them.

36. *DROMOLÆA LEUCOPYGIA* (Brehm). White-rumped Rock-Chat.

Common in the oases at Gardaia, not actually in the gardens, but all about the "weds" (*i. e.* dry rocky watercourses), and on the wells, where I suspect they breed. They also enter the town freely, to perch upon the flat-roofed houses. Their flight is slightly undulating.

37. *DROMOLÆA LEUCOCEPHALA** (Brehm). White-headed Rock-Chat.

One of these bold and handsome birds flew into the courtyard at Berryān, and, settling upon the floor, began to peck at a rotten pomegranate which I had rejected. In the afternoon he returned again, and took another berry. We afterwards found the species plentiful, in exactly the same localities as *D. leucopygia*; and, from having killed a brace of the latter with a few white feathers on the head, I should say that these two species are very near akin.

38. *SAXICOLA PHILOTHAMNA* (Tristr.). Bush-Chat. Ibis, i. p. 299, pl. ix.

Many pairs seen at Tibrem, but never in the stony Chabka Myat. This is a large bird, holds itself upright, and has the habit of raising the tail, common to the rest of the tribe. I did not see them near a dayat, but in the level prairie land, where flocks and herds pasture. From being unmolested they have

* [See *anted*, p. 53.—ED.]

learnt to hop among the Arab tents, feeding upon what they find among the small stones &c.

39. *SAXICOLA CENANTHE* (Linn.). Wheatear. Yarrell, B. B. i. p. 253.

Common.

40. *SAXICOLA STAPAZINA* (Linn.). Russet Wheatear. Gould, B. of E. ii. p. 91.

This seems to be the Chat which is found in the Tell in summer, and of which I obtained one specimen only in the Sahara. It frequents the sea-shore at Algiers, and not the dunes only, but also the rocks by the edge of the water. Its flight is just like that of *S. cenanthe*; it goes from stone to stone with expanded tail; and when it has selected a perch, it remains motionless some time, though not always facing the intruder. It can perch with equal ease upon a stalk or house-top, and even hover for a few seconds in the air. The same pair appear to keep near the same spot for days.

41. *SAXICOLA LUGENS* (Licht.). Mourning Chat. Gould, B. of E. ii. p. 89.

It was only on the dreary route between Gardaia and Berr̄yan, where there is scarcely a particle of herbage to harbour insects, that I observed this bird, except in one instance, when I shot a specimen at Mellika; and it would seem that, unlike its congeners, *Dromolæa leucopygia* and *D. leucocephala*, it but rarely enters oases. On the Berr̄yan route many pairs were seen, mingled, though not actually consorting with, a few *S. deserti*.

42. *SAXICOLA DESERTI* (Rüpp.). Desert-Wheatear.

Seems to be the most universally distributed in the Sahara of all those Chats which usually occupy a very limited area. *Dromolæa leucura* is found in the mountains; *D. leucopygia* and *D. leucocephala* affect the oases; *S. lugens* inhabits the stony Chebka Mzab, and *S. philothamna* the wide rolling prairie. But *S. deserti* is a great exception. It is abundant from Bougzoul to Gardaia, adapting itself to the food found in the Mzab and the Hauts Plateaux. All across the Algerian Sahara it was seen repeatedly, giving utterance to its lively song, which can be

heard at a great distance (though not further than the notes of some of its congeners). Its flight is moderately swift, but not direct. Its tail is never still a moment; and, as in the other Wheatears, the jerking action is always accompanied by a slight vibrating motion of the wings.

The ratio of females to males is as one to eight. In other countries a similar disproportion has been noticed; and some observers have been led to state that the sexes were alike. A specimen shot in March had the black feathers of the throat all tipped with grey—the remains of its winter plumage, I presume.

43. *SAXICOLA HOMOCHROA* (Tristr.). Solitary Chat.
Identified for me by Dr. Tristram.

44. *PRATINCOLA RUBETRA* (Linn.). Whinchat.
Common.

45. *PRATINCOLA RUBICOLA* (Linn.). Stonechat.
Common.

46. *RUTICILLA PHÆNICURA* (Linn.). Redstart.
Common after the 27th of March.

47. *RUTICILLA TITHYS* (Scop.). Black Redstart.
Algiers and Blida.

48. *RUTICILLA MOUSSIERI* (Olfh Gaillard). Moussier's Redstart.

I obtained a fine male of this species in a ploughed field at Miliana, upon an offshoot of the Little Atlas, 700 metres above the sea. It was alone, not far from a path by which ran a small stream of water; I also shot two females at the foot of the hills, where the soil was sandy. Its occurrence at Miliana was interesting, as Dr. Tristram had considered Boghar to be its extreme northern range in the western part of Algeria. There I also got a specimen, high up again in the mountains; but it was not until I arrived at Guelt el Stel that I found the species plentiful. At this place a good many trees grow, and I observed that these birds perched freely on them; but I have also seen the Stonechat on a tree. In the Mزاب country I did not see any, strange to say.

R. moussieri is a shorter, stouter bird than *R. phænicura*, hence it cannot hop or fly nearly so quickly, except when pur-

sued. I think its flight is even slower than a Stonechat's; and it seldom flies far without perching on a stone, clod, or small bush, where it moves the body up and down like *R. phœnicura*. *R. moussieri* jerks the tail sometimes, but never so rapidly as *R. phœnicura*. When feeding, it digs its bill into the ground very frequently, and looks round after each dig, with the pert air of a Robin. They pair in March; and the males look very pretty as they chase the females among the bushes and rocks. As this bird occupies such a dubious place between the Chats and the Redstarts, I was anxious to see which of its actions corresponded with the former and which with the latter. They were quite tame at Guelt el Stel, and I had abundant opportunities of watching them. At that time the black of the back was still edged with brown. Bill black; mouth yellow; eye dark brown; legs, feet, and claws black; soles of feet rather lighter. Length of tongue $\frac{3}{8}$ inch, arrow-shaped, with the tip slit. Food small beetles, small caterpillars, &c.

49. CYANECULA LEUCOCYANEA, Brehm. Blue-throated Warbler, White-spotted Bluethroat.

This Bluethroat, which was pretty common at Laghouat, seems only to show itself on being frightened, when it seeks the cover of rushes. It prefers young wheat and reedy places, and as a rule does not perch on trees.

There is but little of the Redstart in its habits. I frequently saw the two species at the same time (though never consorting); and a greater contrast it would be difficult to imagine.

50. ERITHACUS RUBECULA (Linn.). Robin.

When I arrived in February there were hundreds of Robins in the Algiers poultry-market; but whether the bird is any thing more than a winter visitant I cannot say.

51. CALAMODUS SCHÆNOBÆNUS (Linn.). Sedge Warbler. Laghouat.

52. CALAMODUS AQUATICUS (Lath.). Aquatic Warbler.

This Warbler is not included in Dr. Tristram's list; but I found it, together with the Sedge Warbler, in the small half-dry marsh at Laghouat which I have so often had occasion to men-

tion. The two species live together, and their habits are quite similar.

53. *ÆDON GALACTODES* (Temm.). Rufous Sedge Warbler.

Has a curious habit of cocking its tail. It is hardly ever seen in any other position. Our common British Nightingale has the same habit in a less degree; but with the Rufous Sedge Warbler it appears to be the natural posture to keep the tail elevated; in motion or at rest, it is only depressed at intervals. As I saw scores of these birds on my return from the Mزاب country (in May), where there had not previously been one, I conclude that the species is a summer migrant. Though called by the name of "Sedge Warbler," it is any thing but an aquatic bird.

54. *CISTICOLA SCHÆNICOLA* (Bp.). Fantail Warbler.

In the marsh at Laghouat, in small flocks. The inside of the mouth is black in the male.

55. *CETTIA SERICEA*, Natt. *Potamodus cettii* (Marm.). Cetti's Warbler.

Is found equally in woods and in gardens, but always near a ditch. Even in February it may be heard singing from the heart of a bramble bush. Legs flesh-colour; inside of mouth yellow; eye dark brown. In appearance this bird seems intermediate between a Whitethroat and a Wren.

56. *PHILOMELA LUSCINIA* (Linn.). Nightingale.

The first Nightingale I saw rose out of a field of young wheat! Later on they were plentiful, and one would, perhaps, hear three or more singing at a time. The bird utters a hoarse croak if any one is in the vicinity of its nest, but does not then swell out the throat, which action, I suppose, always accompanies its well-known song. The nest is made (in Algeria) of dead leaves and large pieces of the stalk of a rush, but lined with finer material. Some young ones found on the 21st of May scarcely showed any feathers, but were able to see.

Clinging sideways to any bough, the Nightingale can turn head and body with equal facility, then pausing, right itself, as it slowly raises its tail, at the same time drooping its wings until they nearly meet at their points.

57. SYLVIA ORPHEA, Temm. Orphean Warbler.
Tibrem.

58. SYLVIA ATRICAPILLA (Linn.). Blackcap.

Very abundant about Algiers in February, and perhaps in summer also; but it is difficult to see small birds when the trees are in leaf. It is equally common at Miliana, where I counted thirteen birds on one tree.

59. SYLVIA HORTENSIS (Gmel.). Garden Warbler.
Only one shot.

60. SYLVIA MELANOCEPHALA (Gmel.). Black-headed or Sardinian Warbler.

Manifests great alarm when it has not even finished building its nest. The female, with trailing wings, utters incessantly a low but angry note within two feet of the intruder; while the male (hardly opening his wings) leaps from twig to twig, making the small boughs shake, and in the extremity of his resentment essays to erect a few small feathers in imitation of a crest. They fly with their tails spread, but close them on alighting. Some females are darker than others, especially about the head. I shot a male with a few white feathers appearing in the crown.

61. SYLVIA SUBALPINA (Bp.). Subalpine Warbler.
Two in the Mزاب and one at Tibrem.

62. SYLVIA CINEREA, Lath. Whitethroat.
Laghouat.

63. SYLVIA CONSPICILLATA, Marm. Spectacled Warbler.
Tibrem.

64. MELIZOPHILUS UNDATUS (Bodd.). Dartford Warbler.
Oran and Algiers.

65. PHYLLOPNEUSTE TROCHILUS (Linn.). Willow Wren.

Abundant nearly everywhere. Towards the end of March the multitudes which winter in the Tell migrate northwards and give place to others. Though I frequently thought I heard the Chiffchaff, the birds on being shot nearly always proved to be Willow Wrens. I am convinced that the true Chiffchaff is far

less common than the allied species, not only in Algeria but also in England.

66. *PHYLLOPNEUSTE RUF*A (Lath.). Chiffchaff.

One shot at Laghouat.

67. *PHYLLOPNEUSTE SIBILATRIX*. Wood Wren.

Mزاب.

68. *REGULUS CRISTATUS* (Linn.). Golden-crested Wren.

Algiers.

69. *TROGLODYTES PARVULUS*, Koch. Wren.

Algiers and elsewhere.

70. *ANTHUS PRATENSIS* (Linn.). Meadow Pipit.

Common.

71. *ANTHUS CAMPESTRIS*, Bechst. Tawny Pipit.

In some places the soil of the Sahara is soft and sandy, in others hard and pebbly. The Tawny Pipit affects the former where there is little or no herbage. It appears to be a very solitary bird and not common. Its flight is undulating, like that of the Wagtail; and, like the latter, it twitters on the wing.

72. *ANTHUS ARBOREUS*, Bechst. Tree Pipit.

Common in Summer.

73. *MOTACILLA ALBA*, Linn. White Wagtail.

Universally distributed during the spring and winter, but, on the whole, commoner in the Tell than in the Sahara. On one occasion I observed a large flock on a newly ploughed field. They are decidedly gregarious at certain seasons. Numbers were seen one evening at Laghouat, settling to roost in a wet field of wheat. Though it was not later than the 26th of March, many were still in winter plumage.

74. *BUDYTES FLAVA* (Linn.). Grey-headed Yellow Wagtail.

In the Tell I now and then saw specimens of this Wagtail, but could not get near them. At Laghouat it was quite common, in flocks, apparently on passage, the birds being comparatively tame.

75. *MOTACILLA BOARULA*, Lath. Grey Wagtail.

I saw what, I have no doubt, was this species, at Oran.

76. *PARUS MAJOR*, Linn. Great Tit.

Not uncommon.

77. *PARUS ULTRAMARINUS*, Bp. Ultramarine Tit.

These birds look as bright as Kingfishers, when the sun is shining on them. It might be expected that the southern climate, which has so far heightened their colour, would produce a corresponding diversity of habits and actions, as compared with our own familiar species, *Parus cæruleus*; and I think it is partially the case. Taczanowski also remarks that this Titmouse has a different voice. It goes as far south as Laghouat.

78. *PARUS LEDOUCCI*, Malh. (Plate III.)

I only obtained this species at Miliana, where I observed two pairs on the low trees upon the sides of the mountains. I did not then distinguish them from the Cole Tit (*Parus ater*), with which their habits and actions appeared to agree. The specimen in the Algiers Museum was killed at Beni Slimam. Taczanowski notes that it is found "only in Pine forests. The habits and the voice of this bird are similar to those of our *Parus ater*." Mr. Salvin has no note upon the species; nor was it ever met with by Dr. Tristram.

[To be continued.]

VI.—On the Psittacidæ of Central America.

By OSBERT SALVIN, M.A., F.L.S., F.Z.S., &c.

(Plate IV.)

HAVING recently received, in a collection from Veragua, two Parrots, one of which is apparently quite new to science, and the other new to the fauna of Central America, I take the opportunity of shortly reviewing such members of the family *Psittacidæ* as are found between the Isthmus of Darien and the northern confines of the South-Mexican avifauna.

The *Psittacidæ* having been so recently treated in Dr. Finsch's admirable volumes 'Die Papageien,' wherein the intricacies of their synonymy are carefully investigated, it is quite unnecessary in the present paper for me to retrace this portion of the subject. I have therefore merely given references to Dr. Finsch's



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PAPUA LEPIDOPTER